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Project Management in Knowledge Intensive Business Services

Master's Thesis

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Abstract

Knowledge intensive business services is a growing industry that provides expertise to the customers of the industry companies. However, the project management practices of the industry have remained largely unresearched.

The purpose of this study was to identify common characteristics of knowledge intensive business service projects and discover project management practices that are important in achieving project success and value creation for the customers.

The research was conducted by first doing a large literature review and combining relevant findings from project management and service management research areas. Then a qualitative study that included 12 semi-structured interviews about practical project work with experienced industry professionals was done.

The analysis of the interviews showed that the project must be managed in a way that maximizes the value alignment of the service provider and the customer. This can be achieved by working in close collaboration with the customer. It creates trust, enables maximal information sharing between the project stakeholders, makes the customer more committed to the project and ensures that the project goals are more aligned with the customer organization business goals.

A good way to achieve close collaboration with the customer is to work in the same physical premises, ideally in the same room, called the project space. In this way, the service provider experts can directly communicate with the customer and the length of the feedback loop is minimized. The customer also knows all the time what the service provider is doing, which creates trust and transparency to the relationship between the service provider and the customer.

Another finding of the study was that no standard project management process is applicable to all projects, but the project management methodology must be customized for each project. The value of dedicated project managers was also seen as low in all but the largest or most complex projects. Instead, in the optimal case, the service provider employees would be responsible for managing the project in addition to performing the project work.

Keywords: project management, knowledge-intensive business services, professional services, consulting, project success

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Tiivistelmä

Osaamisintensiiviset liike-elämän palvelut on nouseva teollisuudenala, jossa yritykset tarjoavat asiantuntijapalveluita asiakkailleen. Alan projektinhallintakäytäntöjä ei ole kuitenkaan juuri tutkittu.

Tämän tutkimuksen tavoite oli selvittää mitkä ovat osaamisintensiivisten liike-elämän palveluprojektien erityispiirteet ja miten projekteja tulisi johtaa käytännössä, jotta projektit olisivat menestyksekkäitä sekä tuottaisivat lisäarvoa asiakkaille.

Tutkimus suoritettiin tekemällä ensin laaja kirjallisuustutkimus, jossa yhdisteltiin projektinhallintatutkimuksen sekä palvelututkimuksen teorioita. Tämän jälkeen tehtiin laadullinen tutkimus, joka sisälsi 12 puolistrukturoitua haastattelua käytännön projektityöstä kokeneiden alan ammattilaisten kanssa.

Haastattelujen tulosten perusteella nähtiin, että projektinhallinnan tulee tukea asiakkaan ja toimittajan arvojen asettumista samansuuntaisiksi. Tämä tapahtuu helpoiten, jos yhteistyö asiakkaan kanssa on mahdollisimman tiivistä. Tiivis yhteistyö luo luottamusta, mahdollistaa tehokkaan kommunikaation projektin osapuolten välillä, lisää asiakkaan sitoutumista projektiin sekä varmistaa, että projektin tavoitteet ovat paremmin linjassa asiakasorganisaation tavoitteiden kanssa.

Hyvä tapa varmistaa tiivis yhteistyö asiakkaan kanssa on työskennellä samoissa fyysisissä tiloissa, mieluiten samassa huoneessa eli niin sanotussa projektitilassa. Täten toimittajan asiantuntijat voivat kommunikoida suoraan asiakkaan kanssa ilman välikäsiä ja palautesyklin pituus saadaan minimoitua. Asiakas myös tietää koko ajan, mitä toimittaja tekee, mikä luo luottamusta ja läpinäkyvyyttä toimittajan ja asiakkaan väliseen suhteeseen.

Tutkimuksen toinen huomio oli se, että yksikään projektinhallintakäytäntö ei ole pätevä kaikissa projekteissa, vaan projektinhallinta pitää mukauttaa jokaiseen projektiin sopivaksi. Erillisten projektipäällikköjen arvo nähtiin myös pienenä muissa kuin suurimmissa ja monimutkaisimmissa projekteissa. Sen sijaan optimitapauksessa toimittajayrityksen työntekijät olisivat projektin suorittamisen lisäksi vastuussa myös sen johtamisesta.

Avainsanat: Projektinhallinta, arvontuotto, asiantuntijapalvelut, osaamisintensiiviset liike-elämän palvelut, konsultointi, asiakaskommunikaatio, projektin onnistuminen

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Introduction

Background

Knowledge intensive business services is a large and a growing industry. In January 2015, almost 14 % of the U.S. workforce was working in the industry. In the last nine years, over two million new jobs have been created in the industry. (United States, the Department of Labor, 2015) These services are often purchased as a project. (Savolainen et al., 2011)

However, it is unclear how knowledge intensive business service projects should be managed in practice. Söderlund (2004) has pointed out that there is a need for more empirical research in the area of project management. Project management is a large research area and different types of projects should be also managed differently. (Shenhar, 2001) Project management in some subindustries, such as software development or management consulting, has been studied, but general project management characteristics for knowledge intensive service business projects have not been researched in detail.

Service science has studied how value is co-created in service business. There also exists some research about knowledge intensive business services, which should be utilized in the project management as well. However, so far the research has focused on the conceptualization of knowledge intensive business services and on how innovation happens in them (Muller & Doloreux, 2009), so more empirical research is needed to understand the industry and its projects better.

Research Objective, Questions and Scope

The purpose of this study is to gain understanding of knowledge intensive business service projects, what are their key characteristics and how the characteristics affect management of the projects. Therefore, the research questions are:

1. What are the main characteristics of knowledge intensive business services projects?
2. How should the projects be managed to maximize project success and value creation?

Research Design

As the topic has not been studied much and there are no existing theories, qualitative research approach was chosen.

The research follows a deductive research style with the first research question. It starts with a literature review from both project and service management literature. The literature review focuses on three different research areas: project management, knowledge intensive business services, and value co-creation. Then the current theory is synthesized to a unified model. The model is verified with semi structural interviews performed with industry professionals. The interview data is also used to improve the model, if possible.

The second research question is researched in a more inductive way. Industry professionals are interviewed to find out what issues are encountered in practical projects and how those issues have been solved. Thus, the study has also elements of abductive research, where the theoretical model is adjusted after empirical information collected during the research.

Structure of the Thesis

The thesis starts with a literature review. After introduction, the next two chapters describe the three theoretical frameworks the thesis is built on. Chapter two presents literature about project management that is relevant to knowledge intensive business service projects. Chapter three consists of knowledge intensive business service (KIBS) literature and literature about value co-creation, an emerging concept in service sciences. In this chapter, the defining characteristics of KIBS projects are identified. The

chapter contains a synthesis about the theoretical frameworks and presents a unified framework of managing knowledge intensive business service projects.

The thesis then proceeds to the empirical part of the study. In chapter five, the research design is described. The results of the empirical part are described in chapter six. Chapter seven then presents the final discussion and conclusions.

Project Management

Can project management be relevant in managing knowledge intensive business services? Turner (2009) defines projects as temporary organizations performing unique, novel, and transient work to achieve a beneficial change. Therefore, it is easy to see that most knowledge intensive business service assignments fit Turner's definition of a project: the organization is temporary, it only lasts for the duration of the assignment. The assignments are novel and unique, as organizations and their problems are always unique. For that reason, project management theory is applicable to managing knowledge intensive business service assignments.

Project management is a complex research area. Söderlund (2011) found seven leading research themes in his literature review: optimization, factor, contingency, behavior, governance, relationship, and decision. This chapter will provide a short summary of project management theories that are relevant in knowledge intensive business service projects. The referenced papers were selected by scanning leading scientific journals, keyword searches, looking at the citations of the selected articles, and what articles cite the selected articles.

Project classification

Project management research acknowledges that different kinds of projects need different kind of management to be successful. Some common concepts are applicable to all projects, but different industries need different management techniques. (Söderlund, 2004) A study by Dvir et al. (1998) concluded that project success factors depend on the type of the project and that different kinds of projects have less in common than previously thought.

Project Success

Project success has been an active research topic since the 1970s. The concept of project success has evolved from the so called easily measurable factors, e.g. meeting the schedule, budget and specifications (the so called iron triangle) to a vaguer and

larger construct. In the 1980s the focus moved from “completion” to “satisfaction”, i.e. meeting the customer’s needs and not only the specifications. The stakeholder and wider organization benefits were also considered. Lately, even meeting the strategic objectives of the organizations are considered as affecting the project success. (Jugdev and Müller, 2005; Ika, 2009)

When considering the project success, the project life cycle has also become wider during history. Initially, project success research was concerned mainly with project implementation and handover phase. Project planning and handover phases were included later into the project life cycle and the latest theories include also project conception, utilization and disposal. The concepts “project management success” and “project success” were separated. The former is about whether the project management reached its goals, i.e. was the project completed on time, on budget and with the full scope. The latter means if the final result of the project met its goals, for example whether a new product was successful in the market or not. It was also accepted that success criteria vary between stakeholders. (Jugdev and Müller, 2005)

Joslin and Müller (2015) investigated the relationship between project management methodology and project success and discovered that having a comprehensive project management methodology was a significant factor in project success. Their results also implicated that if an organization’s project governance is more behavior oriented than results oriented, project management methodology of the organization is likely to be more comprehensive. Joslin and Müller (2016), in a later study, were also able to link project success to project governance. They found out that project success was more likely in the organizations that had stakeholder-oriented project governance orientation.

Relational Norms

Trust has been recognized as an important attribute in projects. It has been shown to increase project performance (Kadefors, 2004; Wong & Cheung, 2004) and possibly even create value in project-based businesses (Smyth et al., 2010). Trust creates value

in projects by letting the partners focus on value creating activities without hiding information, seeking fault etc. Therefore, excessive trust has inefficiencies and breach of trust can lead to direct costs. (Kadefors, 2004)

Trust is a complicated construct and consists of several attributes. Kadefors (2004) explained that there are three types of trust in trust literature. Calculus-based trust is based on economic benefits and contractual sanctions. Relational trust is formed by repeated interactions between the parties. Institutional trust refers to the institutions of the society and culture.

Wong and Cheung (2004) identified 14 different trust attributes that have been used in literature. According to their study, the most important trust attribute for customers was reputation and the second most important was satisfactory terms. After that, they valued openness, information flow, and alignment. For contractors, reputation was also the most important trust attribute, but alignment and communication were the next most important ones.

Müller and Martinsuo (2015) showed that in projects where the project governance is laxer, better relational norms correlate with project success. Relational norms are defined by them as features of the relationship between the customer and the supplier, such as trust, information sharing, and flexibility.

Kadefors (2004) emphasized joint goal formulation and continuous improvement over financial incentives in building trust between construction project partners.

Pinto et al (2009) investigated the effect of trust to project outcomes and discovered that customers and contractors perceived trust in a different way and trust had different effects between the groups. There is a significant correlation between integrity trust and “satisfaction with working relationships”. There was also a positive impact on project outcomes. For project owners, also competence trust was significantly correlated with satisfaction with working relationships. Integrity trust was

defined to be trust whether the other party will behave ethically, whereas competence trust was defined as whether the party trusts the other party's competence.

Stakeholder Management

Stakeholder management has been recognized as an important aspect of delivering successful projects. Customer satisfaction for the project provider increases the customer's perception of the success of the project. Expectations, on the other hand, affect satisfaction, so therefore managing customer expectations important to maximize their satisfaction with the project. (Basten et al., 2010)

Basten et al. (2010) discovered several properties of project contractor that affect the customer satisfaction. The three most important were involving the customer, responsiveness, and transparency of the contractor. Other identified aspects include empathy, expertise, proactive discussions with the customer, and consulting skills. Diegmann et al's (2017) study also found evidence that in information system development projects, the communication between client and vendor had an effect on customer's evaluation of the development process and a smaller effect on the evaluation of the developed system.

Competence of the Project Manager

The desired competence areas of project managers have been studied. The specific skills differ based on project type and complexity. (Müller and Turner, 2010) In Müller and Turner's (2010) study, IT development projects required 13 of 15 possible skills, while organizational change projects had a requirement of 12 of 15 competencies. The complexity of the project had an impact on the required skills as well. In projects that were rated highly complex, all of the possible 15 project manager competencies were required. Contract type was another attribute that affected the needed competencies. Fixed price projects had more competence requirements than projects that are billed by time and material.

Maqbool et al. (2017) discovered that in addition to project management skills, emotional intelligence and transformational leadership were also significantly correlated with project success. Van der Hoorn and Whitty (2017) got similar results in their study. According to them, building rapport and trust, demonstrating empathy, and selling are important in sustainable project management. They identified ten tools that a project manager can use to seek alignment with project stakeholders. They can help to create a common vision of the future, create a story of the future, gradually bring up a new idea in small steps, understand the personal motivations of the stakeholders, use greater purpose to describe the ideas or actions, try to get a stakeholder to come up with a certain decision on their own, being interested in the personal lives of the stakeholders, focusing on face-to-face communication, using social rituals such as going to lunch together, and using informal humor.

Van der Hoorn and Whitty (2017) highlight that much of the project manager's success comes from social skills and techniques and not from traditional process based tools.

Project Spaces

Bosch-Sijtsema & Tjell (2017) have introduced a concept called project space. Their research indicates that having a common space for project activities improved knowledge sharing, social interactions between the project members and cross-competence collaboration. Additional benefits of a common space include faster problem-solving time, improved possibilities for project team members to contribute to the success of the project and improved social relations between the team members, which improves trust and allows deeper communication between the members.

Bosch-Sijtsema & Tjell (2017) noted that working in a common space was especially beneficial for client interactions in the project. The client wishes and needs were more present in the project that used a common project space than in other projects. The client also preferred to work directly with the project team members instead of communicating only through the project manager. That means that the role of project manager changes in this kind of projects. The project manager becomes more a

facilitator to get people to work together directly instead of managing the tasks of the team members. The responsibilities of the team members increase correspondingly.

Project Management in Specific Industries

Certain industries have their own project management research areas.

Project Management in Management Consulting

Jang and Lee (1998) created a theoretical framework about factors influencing management consulting project success. Their model divided the success factors in three categories: competence of consultants, consultation mode, and client organizational characteristics. Competence of consultants means that consultants need to master several distinct roles in order to achieve maximal success. They need to act as experts, managers, researchers, counselors, and politicians. Consultation mode includes traditional project management aspects: how well the project's goals are defined, how compatible the methods of the consultants are with those of the client organization, how well the tasks are standardized, and how much the clients participate in the project work. The last category, characteristics of client organization, consists of the actions of the client. The client's top management must support the project, the project team needs to have a client/sponsor, the client team members need to be committed, and the client team members need to have suitable functional experience.

A study by McLachlin (1999) introduced a different list of success factors universal to all consulting engagements: consultant's integrity, client's involvement and readiness to change, clear agreement about requirements and expectations, client's control of the engagement, consultant's competence, and a good fit between the client and the consultant. Consultant's integrity means that the consultant should always focus on the client and their objectives, and to be honest and not to overpromise. Client's involvement requires the client to be willing to change and to participate in the project. Client's control, on the other hand, is accomplished when the client holds the responsibility of the project. It is also advisable to limit the length and scope of the

consulting assignments. Consultant competence is the functional ability of the consultant. Finally, fit between the consultant and the client means that the consulting project type must be aligned with the need of the client and with the capabilities and methods of the consultant. For example, if the personal relations of the client's management team are suffering, hiring a consultancy company specialized in product portfolio optimization is a bad fit.

Appelbaum & Steed (2005) studied the critical success factors with a quantitative survey based study. It identified a number of significant variables in explaining whether a management consulting project was successful or not. The variables were whether the solution acknowledged the client's "internal state of readiness", if the project included prototyping new solutions, whether the project deliverables were clear, if the consultant co-operated with the client constantly, the consultant's professionalism, and the consultant's understanding of the client's urgency.

Schaffer's (1997) book contains five common flaws of consulting that lead to project failures. The first is focusing on the process instead of customer results. The second flaw is not matching the recommendations to client's "readiness to change". The third mistake is starting a too large project. Instead, the work should be done iteratively. The fourth flaw is dividing the work strictly between the client and the consultant. The work is more efficient when performed in collaboration. The fifth flaw is to use too much consultant hours. Instead, they should be utilized to fit gaps in the customer's competence.

Software Development Project Management

Software development projects vary from integrating an existing product to developing custom-built software. The project resources may be internal or external professionals. In addition, the project customer may not have expertise in the area of software development. For those reasons, software projects are a good example of knowledge intensive business services and it is useful to see how those projects are managed.

Frese & Sauter's (2014) literature review about software project success identified several success factors, but they emphasize communication as clearly the most important factor. Communication needs to be frequent and include all relevant parties. Casual communication is preferred to formal meetings. They also highlighted the importance of the communication style of the project manager.

Jurison (1999) found out that software projects have three common characteristics that cause project management challenges. Software is intangible, so measuring project progress is difficult. Software projects are often very complex. And finally, as software is easier to modify than hardware, project requirements are changed more often during the project.

Jurison's (1999) critical success factors are clearly defined objectives, top management support, adequate budget, realistic schedule, client participation, project leadership, project reviews, change control, communications, and problem solving.

Ko & Kirsch (2017) showed that project manager's technical competence reduces the technical uncertainty of the project and their business competence reduces the requirements uncertainty of the project. They suggested employing hybrid project managers, who have expertise from both IT technology and business domains.

Agile Project Management

In the beginning of the millennium agile project management started to become more popular in managing software projects. (Fernandez & Fernandez, 2008) The traditional project management was criticized as not being adequate for highly complex and uncertain environments. (Koskela & Howell, 2002; Williams, 2005) Agile project management emphasizes responding to change, collaboration of project team members, and customer involvement in the project. (Coram & Bohner, 2005) Agile project management is generally used in software development, but it is applicable to other project types as well, as long as the project requires efficient responses to changing requirements. (Recker et al., 2017)

Chow & Cao (2008) investigated the critical success factors of agile software projects and found six. The delivery strategy of the project must focus on the critical features first and the deliveries need to be regular. Agile software engineering techniques must be followed, which means that the technical quality of the work must be high. Team capability, which consists of team member competence and managers' skills, must be high. Project management process needs to be followed. Team environment was an important topic. Team needs to be collocated and be self-organized. Finally, customer must be closely involved in the project, to be committed to it and have the full authority over it.

Recker et al. (2017) studied the effects of agile practices and gathered evidence that team responsiveness to change is positively correlated with project success. Their data also suggests that collective project technical ownership was positively associated with project success.

According to Leybourne (2009), acceptance of more improvisational and adaptive means of project management has increased lately. Improvisational project-based working has been studied, and Leybourne (2009) suggests that there are considerable similarities between improvisational working and agile project management.

Leybourne (2009) suggested using Miner et al's (2001) constructs of improvisational work to describe the required attributes. The constructs are creativity, innovation, bricolage, adaption, compression, innovation, and learning.

Knowledge Intensive Business Services

Knowledge intensive business services were originally proposed and defined by Miles et al. (1995) as services that rely on professional knowledge, are offered to business customers and not individual consumers, and either produce new knowledge or help customers to generate new knowledge.

Miles et al. (1995) divide knowledge intensive business services to two subcategories. The first category is traditional business services such as marketing, advertising, design, management consulting, accounting, or legal services. The second category consists of technology-based knowledge intensive business services, including software, technology related design or management consulting, and R&D.

Toivonen (2004) defined knowledge intensive business services as companies that sell expertise based service to other businesses. Her definition emphasizes developing knowledge instead of just utilizing existing knowledge to solve problem. They also help in transferring knowledge and experience between companies.

Muller & Doloreux (2009) summarized definitions of knowledge intensive business services to have three core elements. The services are offered for companies and public organizations and not to private consumers. The services or the transactions between customers and providers are "knowledge intensive", and that human capital is the most important factor in the operations of the service providers. Bettencourt et al. (2002) defined knowledge intensive business services as utilizing knowledge to develop a customized service to satisfy the customer's needs.

Professional Services

An earlier concept of professional services is also used to describe expert produced business services. Miles et al. (1995) stated that the main difference between traditional professional services and knowledge intensive business services is that knowledge intensive business services are concerned with technology. Brax (2013) separates knowledge intensive business services from professional services by defining

knowledge intensive business services so that they create new knowledge together with the customer, whereas professional services use existing knowledge to solve customers' problems.

Classification of Services

Services can be classified by several different ways. Cook et al. (1999) provided a number of different dimensions. The dimensions are separated into marketing-oriented and operations-oriented categories. Marketing-oriented categories include tangibility, differentiation, object of transformation, type of customer, and commitment. The operations-oriented categories are customer contact, capital intensity, customer involvement, employee/provider discretion, and production process.

Von Nordenflycht (2010) divided knowledge intensive professional services to four categories. The first category is called "Classic PSF" and it contains traditional professions such as law and accounting. The second category is "Professional Campuses" and it consists of hospitals. The difference to the first category is that this category requires substantial capital investments to enter. The third category is "Neo-PSFs" and it contains management consultants and ad agencies. The category has less professionalism than the other categories. Finally, the fourth category is "Technology Developers" and it contains engineers and scientists.

Creplet et al. (2001) divided consulting companies to two categories. One category offers standardized solutions to client problems. For those companies, the buying process emphasizes service provider's brand and international reputation. The second category of consulting companies provides customized solutions. Those companies are selected based on their local reputation and the trust that the customer has in them. They are also often more specialized either in geographical area or industry experience.

Characteristics of Knowledge Intensive Business Services

Von Nordenflycht (2010) noted that in knowledge intensive services, it is difficult for customers to evaluate the quality of the service. He called the effect “opaque quality”. He listed four mechanisms that the service professional can use to signal quality. Bonding means processes or social pressure that penalize bad quality. For example, if the compensation of the employees depends on everybody’s quality of work, it creates an incentive to monitor other employees’ work and to make sure that its quality is good enough. The second mechanism, reputation, is an important aspect of displaying quality when the work is abstract. The third mechanism, appearance is a related concept that relates to the observable qualities of the company and its employees. Lastly, ethical codes are a way to enforce professional conduct. Glückler & Armbrüster (2003) also suggested that experience-based trust and networked reputation are the most important criteria in selecting management consulting service providers.

According to Bettencourt et al. (2002), knowledge intensive business service activities are highly customized to meet every customer’s unique needs. The clients themselves have much of the knowledge that is required for designing an optimal service, for example the service project objectives. This makes the customers co-creators of the service and makes client co-production management an important part of service.

Bettencourt et al. (2002) highlight that the client needs to perform a specific role for the service assignment to be optimal. They provided seven responsibilities that the client should have: communication openness, shared problem solving, tolerance, accommodation, advocacy, involvement in project governance, and personal dedication.

Nikolova et al. (2009) studied the practices of consulting projects. They found out that there are three models that are used to describe the relationship between the client and the consultant. The first is the expert model, where the consultants use their knowledge to solve the clients’ problems. The client’s role is to provide information. The second model is the critical model, in which the focus is on the presentational skills

of the consultant. The client's role is to be a passive receiver of information. The third model is the social learning model, where problem solving is a collaborative activity between the client and the consultant.

In their research, Nikolova et al. (2009) discovered that a consulting project has four phases: acquiring projects, consulting practices, communicating results, and coordinating expectations. Their results indicated that the more concrete the project type is, the more important existing references are. When selling more abstract types of project, the appearance and the persuasiveness of the consultants was more important. They also highlighted the need to adjust the language to the needs of every specific client.

Nikolova et al. (2009) divided consulting projects to two categories based on the amount of innovation required when implementing the project. Simpler projects are called exploitive consulting and more complex projects are called explorative consulting. In exploitative consulting projects, the consultant performs the problem solving activities with the help of data from the client. The technical expertise of the consultant is very important. On the other hand, in explorative consulting, the focus is more in collaborative problem solving together with the client. The personal relationships between the consultants and the clients become more important in these kind of projects.

The other two main phases found by Nikolova et al. (2009) are communicating the results and coordinating expectations. The client's perception of the project could be affected even after the project had ended in the final presentation, so that becomes an important aspect of demonstrating value of the project. The expectations of the client need to be managed regarding both the process and the final outcomes of the project. Failure to do that can result in unhappiness and mistrust.

Shostack (1977) argues that intangibility of services has critical implications in marketing. As services cannot be touched or felt, they need to be experienced instead.

So services should be marketed not in terms of product attributes, but based on the experience. And as different customers experience the service in different ways, the marketing needs to be focused on discovering, understanding, and enhancing the "realities" that different customers experience. The customers form the realities largely through the tangible evidence that the service creates. And the more intangible the product or service is, the more the marketing needs to focus on its tangible evidence as opposed to its intangible image.

Value Co-creation

The importance of creating value has been widely acknowledged in service research. But conceptualizing and operationalizing the construct of value has remained challenging for the researchers. (Rajala et al., 2015)

Customers perceive value as a difference of benefits and sacrifices. The benefits can be divided into multiple short term and long term components. In addition to value created by the service process, there is value in the social interaction in the service process. In the long term, the customer gets value from having access to the resources of the service provider, gaining the capabilities of the service provider and having access to their partner network. (Rajala et al., 2015)

Solution research has found out that customers view solutions as relational processes, which is something that suppliers tend to overlook. (Tuli et al., 2007) That makes effective collaboration crucial in collaborative solution building. (Hakanen & Jaakkola, 2012)

Service-dominant Logic

Vargo & Lusch (2004, 2008) have introduced a concept called service-dominant logic. According to their model, the customer is always a co-producer of a service and thus a co-creator of value. The value of a service is determined by the customer by "value in use". Grönroos (2008) has emphasized the importance of the customers' value-in-use

over the commonly used value-in-exchange and suggests that it should be considered as the concept of value also managerially.

Grönroos (2008) argues that customers are the main value creators in a service process, but suppliers are providing the value foundation (their value proposition) and act as value facilitators by helping the customer to maximize the value-in-use of the value creation activity.

Grönroos (2011) also stated that value is only measured as the customer's value-in-use and is defined by their experiential perception. As the value is created in the customer's usage, service providers should become part of value creation by participating in the usage process. The implication is that value creation is only possible for the service provider in customer contact. Grönroos calls all other activities "value facilitation".

Heinonen et al. (2010) have taken service-dominant logic further and claim that S-D logic is still too provider focused. Instead, they propose customer-dominant logic. In customer-dominant logic, customer controls the value creation. Value emerges from customer's internal processes and not only interactive processes as in service-dominant logic.

Service Experience

Co-creation literature has indicated that service experience is an important mechanism in value creation. Prahalad & Ramaswamy (2002) suggested that experience is an important source of value for consumers. Wikström (2008) discovered that the most customers wanted to be active participants in the service process. They also were interesting in learning more about the service, and being in close contact with other people. Service provider can only affect the experience by providing a certain service and the setting for it.

Value Co-creation in Knowledge Intensive Business Services

Aarikka-Stenroos & Jaakkola (2012) have studied value co-creation in knowledge intensive business services. They have separated the processes of problem solving and value co-creation to separate, but partially overlapping activities. The joint problem solving process consists of five collaborative activities: “diagnosing needs”, “designing and producing the solution”, “implementing the solution”, “managing value conflicts”, and “organizing process and resources”.

The activities identified by Aarikka-Stenroos & Jaakkola (2012) are quite similar to the consulting process phases by Nikolova et al. (2009). Diagnosing needs refers to the responsibility of the consultant to figure out the actual need of the client with the information provided by the client. Designing and producing the solution is about producing the solution that will create the most value for the client. This is done often in collaboration. Implementing the solution means using the solution to create value. This is most often the client’s responsibility. Organizing the process and resources refers to the joint effort of setting up the project process and the responsibilities of the parties. Consultants generally need to guide the inexperienced clients to utilize also their expertise during the project. The last activity, managing value conflicts, is about solving the disagreements about the best possible value creation.

Hakanen & Jaakkola (2012) reached similar conclusions. Their study identified many factors that affect co-creation, but the more knowledge-intensive and customized the solution, the more collaboration and interaction between the supplier and the customer was needed. From the supplier point of view, they identified e.g. understanding on partner’s resources, goals, operations, and processes, commitment to common goals, and trust and rapport. From the customer point of view, their list of factors affecting co-creation included openness and willingness to share information and participate in the process, willingness to involve the suppliers in value creating processes, and desire for controlling the process.

Synthesis of the Literature Review

A preliminary list of critical success factors for knowledge intensive service business can be formed by combining theories about project management and service theories. The inability of customers to evaluate the quality of the service is a common problem for knowledge intensive business services projects. This is a problem in both project sales and in project implementation. In sales phase, it is difficult to utilize past references and in implementation phase, it is difficult to show whether a project created value and achieved its success criteria. (Von Nordenflycht, 2010; Nikolova et al, 2009)

The problem stems from generic problem of intangible services (Shostack, 1977), but is amplified by the expertise mismatch of the service provider and the customer. Shostack's (1977) recommendation is to focus communication on service's tangible evidence and to make the service as concrete as possible. Nikolova et al. (2009) also suggest focusing on concrete references, including existing clients, in the project sales phase. They, along with Von Nordenflycht (2010), emphasized the appearance of the service providers in abstract projects.

In the project execution phase, Shostack's (1977) advice of making the service as concrete as possible can be utilized in project communication and in the working space. If the communication is in the customer's language, the project feels more concrete than if communicated using the provider's abstract jargon. Similarly, if the progress and the current state of the project are visible all the time, the concreteness of the project increases. This can be achieved e.g. by utilizing the project space walls and ensuring that the customer has access to the work-in-progress project deliverable continuously.

Trustworthiness is another topic that is strongly related to challenging quality evaluation. There exists some evidence that a suitable level of trust leads to project success and customer satisfaction. (E.g. Müller & Martinsuo, 2015; Pinto et al, 2009) Competence trust can be seen to be linked with references, while reputation is related to integrity trust.

Client involvement in the project was mentioned by multiple authors as critical in both ensuring project success and creating value. According to service-dominant logic theory, value is created in customer's internal business processes, (Vargo & Lusch, 2008) so close collaboration is mandatory for maximal value creation. In addition, customers are experts in their industry, so they bring crucial information for achieving higher level project success goals.

Top management support has been discovered to be a critical success criteria in both management consulting projects (Jang & Lee, 1998) and software development projects (Jurison, 1999). Top management support can be improved by good communication, such as clear status reports, and internal marketing. Jang & Lee (1998) also pointed out the importance of having a project sponsor, who knows all relevant stakeholders and has authority and power to affect different stakeholders to collaborate in the project.

There are a number of demands on the people who are involved in the project from the client's side. They need to be committed to the project, have relevant competence, and collaborate with the service provider in order for the project to succeed. (Jang & Lee, 1998; McLachlin, 1999; Bettencourt et al, 2002). It is clear that successful collaboration is one of the most important aspects of daily project work. In practice, it means that the project team must be co-located as much as possible. (Bosch-Sijtsema & Tjell, 2017) The project management process must be selected to maximize collaboration and communication and to solve conflicts as soon as they arise.

Research Methodology

The objective of this study is to study the characteristics of knowledge intensive business services and how projects are managed in the industry. As the topic is not widely researched and there are few theories available, an explorative qualitative research design was selected. The study follows abductive research process, where the theoretical background was developed simultaneously with empirical data collection and analysis.

Data Collection

12 semi-structured interviews were conducted in July and August 2017 to collect empirical data about knowledge intensive business service projects. The interviewees were selected from a large pool of current or previous colleagues of the author, i.e. all interviewees had previously worked with the author. The sample was divided to four segments, and at least two interviewees were picked from each segment: business consultants, designers, software engineers and project managers. In addition, the most experienced professionals were selected from the sample, as gathering relevant knowledge takes time and requires experience from multiple different projects. All interviewees had experience mainly working in the supplier side of the projects. But one interviewee had also relevant work experience as a customer, so the interview focused more on the customer side of the projects.

Half of the interviewees were approached in person and half by instant messages. All 12 people who were asked to the interview agreed to participate. The author knew all the interviewees beforehand well and had worked with them in real projects. One interviewee (J) was suggested to the author, because he had specific knowledge about value creation in management consulting.

The sample size of 12 was selected, because it was recommended by Guest et al. (2006) in their analysis of the required number of interviews in qualitative research. The sample was large enough so that it could be segmented to small different

segments, but large enough that major themes started to become repetitive in the later interviews. On the other hand, larger sample size would have allowed for bigger segments and better confidence for comparisons between different segments. For reporting the interview results, a 32-item checklist by Tong et al. (2007) was followed to ensure that all relevant information about the interviews is available in the study.

The interviews were conducted in a loosely semi-structured manner. The first interview was more strictly structured, but during the following interviews it was discovered that more insight was collected by asking first more open-ended questions and then clarifying questions. All interviews were customized for each interviewee. As the author knew the background of every interviewee beforehand, the interviews focused on the area that the interviewee has most experience about. The previous interviews were also used when preparing the following interviews. The interviews lasted for about an hour each. They were held either in the office or during lunch at a restaurant. The interviewees were told not to discuss any information under NDA, but instead to keep the discussion in general level. The interviews were recorded and transcribed for later analysis.

The interviews covered a wide variety of topics related to projects. All interviews had questions about project implementation phase, but only those interviewees who had enough experience in selling projects, were asked about project sales.

In addition to the interviews, some project sales material was received to better understand the sales phase of the project. Many interviews also referred to “Project Kick-off Poker”, which is available on the Internet. That material was also used to analyze important aspects of projects.

Table A provides basic information about the interviewees. Most interviewees were rather senior who had experience about a wide range of projects. In addition, one less senior interviewee (E) was selected as they had multidisciplinary background and could compare design and software development project activities. 4 of the interviewees

were female and 8 were male. This fits rather well to industry gender composition. Especially in software development males have much larger share of the workforce.

Interviewee code	Main expertise area	Experience in years	Gender
A	Software development	16	M
B	Management consulting	9	F
C	Graphic design, software development	9	F
D	Software development	10	M
E	Software development, service design	5	M
F	Project management, sales, software development	12	F
G	Graphic design, project management	10	M
H	Project owner, project management	17	M
I	Management consulting, sales	17	M
J	Software development, project management	19	M
K	Project management, sales	18	F

Table A: Interviewees

Data Analysis

The interview transcripts were labeled under categories “value creation”, “project success”, “project management”, “competence requirements”, “customer

management", "project sales", and "future trends". The transcriptions that where combined under one label were then analyzed as a whole.

Special care was taken when comparing interview data from different interviewee segments, as differences in the data could identify important differences across industries.

Results

Project Management

In general, the interviewees agreed that project management is a critical aspect of managing knowledge intensive business services and some common project management practices were found that were applicable across industries.

The interviewees confirmed that the projects are so different that no general project management framework or methodology is applicable to all projects, but instead the project management should be tailored to fit each project's unique requirements. Still, using an industry standard project management methodology was seen as a good starting point. It provides a common language with the customer, especially if the customer has used the methodology before. In addition, if a new team is composed from people who do not know each other, or are even from different companies, using a standard methodology is a good way to create cohesion and common language between the people. Time is not spent in arguing who has the authority to set the process. But the interviewees pointed out that the methodology is unlikely to work properly throughout the project. Instead, process improvement should start immediately after the project is started to fit the process to exactly match the project environment.

> *The process is the backbone that you can lean on. When you feel that there is no way forward, then you already know the next steps. You must not also be a prisoner of process. – Interviewee E*

According to the interviewees, the contractor should be responsible for the project management process and suggesting the ways of working when the project is sold and when it is started. But the process should be applicable to the customer's requirements. For example, if there are certain reporting requirements, those need to be integrated to the project management process, and everything else adjusted so that the new reporting requirements fit to the rest of the process. Also, how familiar the

customer is with certain project management practices affects whether they should be used or not. The contractor should always strive to use familiar practices and language with the customer.

Interviewee H, who was the only interviewee with customer experience, told that he did not care which methodology the contractor selected for project management, but only the end results of the project were interesting to him.

Most interviewees had an opinion that it is not important who in the project is responsible for the project management, as long as somebody takes care of it. Depending on the team size, but usually some of the team members has an interest in project management, so they can also ensure that the process is followed and that everybody is doing relevant things. In case there is nobody in the project team who is interested in project management, then an external project manager could be used. This also depends on the project size and requirements. If there are large reporting requirements and if the project is extremely complicated, then it makes sense to have a dedicated person responsible for project management. Or if the customer demands it.

The interviewees felt that contractor has a responsibility to suggest improvements to the project deliverables, even if they are against the contract that has been signed. In those cases, amendments to the original contract could be negotiated. In other words, if producing some new unexpected things during the project, some less valuable previously agreed things could be omitted.

For project team formation, interviewees D and H had an opinion that the team members should have a diverse background to bring many different points of view when working on the project.

The interviewees had in general the feeling that project participants are responsible for following project progress and that the contractor company should not have internal monitoring practices, but instead the team should be responsible for raising the flag if the team members feel that the project needs external help.

Value alignment

Many interviewees told that for a service provider, it is crucial to identify the core values that the customer holds and adjust their own behavior based on the findings. This can be done partly during the sales phase of the project and written to the contract. But many important details will be found out when working on the project. The client might be reluctant to share business requirements or customer's internal decision-making processes with the contractor, even when they affect the project management directly.

Another thing that needs to be aligned with the customer is the quality evaluation criteria. If the customer and the service provider have different expectations about the project, the customer will not feel that they have received valuable service. If for example a designer wants to design pixel-perfect designs from the start of the project, while the customer would prefer to get rough sketches for quick iterative feedback cycles, the customer will not be happy about the work of the designer.

The interviewees felt that recognizing the weak signals about the external requirements for the project and how the value of the project team is evaluated is extremely important for project success and customer satisfaction.

> *One task of a consultant is to offer the customer tools that make their life easier. In other words, if we know what the customer's reporting requirements are or if their personal bonuses are based on a project milestone etc. Then of course the project team must understand these and help the customer with them. – Interviewee I*

> *If we are not aligned, then good communication is not enough. There will be conflicts about what to work on, and perhaps we will not understand the goal in the same way and we will be optimizing the wrong things. It is very important to have a shared understanding and a common goal. – Interviewee A*

Communication

All interviewees pointed out that customer communication is the most important aspect of knowledge intensive business services. The communication needs to be handled in all levels. Official communications, such as tenders, progress reports, and final presentations, but even more important is the informal daily communication. Communication must be customized to each customer contact to match the level that the person prefers and understands.

Maximizing the amount of informal communication was seen as beneficial for many reasons. It provides a channel to retrieve all important information that the customer has to the contractor. The faster this information is transferred, the faster the project proceeds, as the contractor does not have to wait for answers to open questions that have been asked from the customer. The customer is also usually much more knowledgeable about the industry than the contractor. So, the more the customer and the contractor talk, the faster false assumptions are uncovered and corrected. Interviewee A argued that meetings have a predefined agenda, which on one hand makes the meetings more productive, but on the other hand hide important background important. That would have been visible, had the communication be done in the open.

> *Meetings are bad at sharing information. Everybody arrives to the meeting with a predefined agenda and we cannot hear how the customer communicates internally. And it is a very important thing to learn. – Interviewee A*

The interviewees told that each project usually has a number of requirements that are not in the contract, but are found during the project. Frequent communication, especially in informal contexts, is important to find these hidden requirements. There was a general dislike for meetings, but in case the customer's contact person is very busy, it is better at least to reserve beforehand some of their time, so that important project related issues can be communicated properly.

Interviewees K and L specifically highlighted that all important customer communication has to be done face to face, or if that is not possible, then over the phone. Written communication is good for documenting and writing down what was agreed verbally, but all important communication should first be spoken to the customer and only then sent by email.

> *Email only is not enough, instead things really need to be talked through together with the customer. – Interviewee K*

> *The best way to communicate is face to face, there is no way around it. Being present, being close to the customer as much as possible always helps. – Interviewee L*

Interviewee H, who had been working as a customer project owner, felt that the most important things that need to be communicated are the unexpected problems, as soon as they are encountered, and whether the customer can help in some way to solve them. Another important thing is the successes of the project team, so that they create a positive experience for the project team members and the customer.

Work Environment

All interviewees indicated that working in the same premises as the customer was the optimal working environment. Preferably the work would be performed right next to the customer's contact person and project manager, so that communication would be fastest and most informal. It would enable a quick feedback loop when evaluating possible prototype solutions or designs.

Working with customer also enables informal discussions during lunch breaks and at the coffee room. It also enables learning customer industry jargon faster. Often in projects there is a need to communicate with other customer employees than the direct project contacts. That is also easier if the project team already is located in the customer premises, so they can easily meet the required person in person.

Project Success

The interviewees regarded project success also as a multidimensional construct. In the most basic sense, a project is successful if it fulfills the contractual requirements, which means that all deliverables specified were provided in the previously agreed schedule and with previously agreed cost. But all interviewees agreed that this is not the full picture, as it is generally impossible to identify all critical targets when a project is started.

In addition, the interviewees identified a number of dimensions that affect the success of the project. Quality of the end result is important, especially in more concrete project types. In more abstract project types, such as advisory, the project might be successful if it enables making key decisions, whether e.g. to proceed with product development or not, or if some important business assumptions were validated during the project.

In many interviews looking at the larger picture was mentioned as being part of project success. In product development projects, it is important to see whether the product succeeds in the market and also whether the customer company succeeds. So, project goals should always be aligned with these higher-level goals. The contractor should always try to help steering the project goals towards higher level goals.

Interviewee A told that contractor could help the customer to create project specific goals (key performance indicators or KPIs) in the beginning of the project. On the other hand, interviewee J had an opinion that all project goals should be mapped to client company business goals and be derived from those.

The final dimension identified in the interviews was that in some level, the success is always subjective and cannot be measured objectively. So, customer satisfaction at the end of the project is an excellent measurement of project success. If customer and project team are able to keep the atmosphere and the general feeling positive during the project, people will also remember the project later as successful. But if there are

long periods of conflict and unsolved problems, they will cast a shadow over the project even if they are ultimately resolved.

Value Creation

When asked about how knowledge intensive business service providers are creating value for their customers, the interviewees had fairly different points of view. Some concrete dimensions were identified, such as producing the deliverables that were agreed on the contract. Also resource based view of value creation was mentioned several times. The contractor provides expertise that the customer does not have. Or acts as a buffer when customer's demand for expertise fluctuates, so that the client does not have to hire short term employees. Interviewee J had an opinion that everything that the contractor does can be mapped to creating value for the customer using Michael Porter's shared value framework.

The expertise of the contractor can be valuable in many ways. Many times, the contractor has worked in multiple industries and can bring best practices from other industries to the customer's business domain. In addition to technical knowledge, the contractor can improve the customer's company culture and even act as a role model for customer's own employees.

But some more complicated value dimensions were also presented. Several interviewees felt that using external service providers brings value to the customer, because the contractor brings new ideas and a fresh look of the current situation.

Both business consulting interviewees brought up that an outside expert opinion is valuable for the customer. It is used to validate the customer's own plans and also as evidence to third parties, such as owners or financiers, that the customer's plans are solid and well prepared. This value dimension was not mentioned in other interviewees, so it might be most common in business consulting.

The customer representative interviewee H felt that the customer experience was very valuable in addition to the project deliverables.

Somebody has said that the destination is not important, but the journey. Which means exactly the experience. Of course, there can be ups and downs along the way, but it will create the experience and if we also reach the destination, it is good. There must be a good experience. – Interviewee H

Customer Management

According to the interviewees, customer management is highly dependent on the customer and the customer company culture. In some project contexts, the customer wants to remain in complete control of the project and is not willing to collaborate or discuss any improvements to the project work. In those cases, there is not much that the contractor can do, other than to fulfill the customer's requirements as well as possible.

But in most cases, the contractor has plenty of ways to help the customer to get the most out of the project. As mentioned before in the project communications section, demanding active customer participation is one of the most important aspects of enabling project success. If the customer has an active project owner or even a project team that works along with the contractor actively, the odds for a successful project increase, as mentioned before in the project management section.

In addition, according to the interviewees, the customer also feels that the contractor is doing a better job, if they work closely with the contractor. In knowledge intensive business service projects, there is a lot of work that is invisible in the final outcome of the project. Assumptions that were validated as invalid, evaluation of several possibilities and picking the best, etc. If the client is aware of this work, they feel that the contractor is doing better work than if they only see the end result of the project. This can be achieved by working closely with the customer and keeping them up-to-date of all aspects of the work that was done. In case that is not possible, another possibility is to send frequent progress reports that inform what was done, what were the alternatives that were considered and why the selected option was selected.

When solving problems, you must be able to communicate how did you partition the problem and how are you going to solve it. What kind of analysis you have performed. It is not enough to communicate the end results. – Interviewee B

A related technique that came up, especially with interviewee B, is that the customer should be integrated to the problem-solving phase by always asking their opinion about all open tasks and then always telling them afterwards how these problems are solved, so that next time they can do it themselves, if they want. It improves customer's commitment to the project and creates trust.

Trust was identified by most interviewees as an important aspect of knowledge intensive business services. A trustful relationship brings a number or benefits. Communication is more open and enables better alignment of values. No information is hidden from the contractor, so that they can make the best possible decisions in the project work. Trust makes the project work more efficient, because the contractor does not have to spend extra effort on reporting and other process related waste, but the process can be streamlined to maximize value creation.

Trust affects the customer's expectations, according to interviewee C. When the customer trusts the contractor, they don't question the time spent on a problem, but instead trust that the time was spent on evaluating possible alternative solutions, choosing the best and then taking care of small details properly. In discussion with interviewee G, it came up that trust also reduces the effort that is spent on project proposals and contracts. If there is already trust between the parties, the project sales and negation phase can be much quicker, as project deliverables do not need to be specified in huge detail. Instead, the parties can trust that they will figure out the most suitable deliverables during the project.

The interviewees had no easy solutions for creating trust. Most identified ways to improve trust were the same that were already identified as being important for

project success. Examples of ways to create trust between the parties were long-term relationships, honest and timely communication, keeping promises, working closely with the customer and caring about them also in personal level, keeping the customer involved in the project work, and trying to improve the customer's affairs also outside the project scope.

The interviewees told that one of the tasks of the customer is to share information that is relevant for the project.

Conflict resolution

Many interviewees mentioned that projects are somewhat likely to run into conflicts with the customer organization. Examples were using project management processes that the customer does not use, differences in the company cultures and values that cause friction, or customer's internal political battles that affect the project. The interviewees felt that it is very important to try to predict these kinds of conflicts beforehand when the project is being sold. Customer top management support can be useful to indicate that the project has the blessing of the customer organization, even though some individual customer employees might object to it.

Also during the project, the project team should be observing very closely how far they can go and what is the maximum that the customer organization can take. If e.g. a project management practice is not critically important for the project success, it can be dropped if the customer insists. If in any case a conflict occurs during the project, it needs to be solved together soon. Interviewee H pointed out that resolving these kinds of conflicts can create more trust between the contractor and the customer. It is very important for the contractor to be committed to solving the dispute and not start discussing contract amendments when the conflict is still ongoing.

If nobody gets upset, nothing will change. – Interviewee H

Competence Requirements

When asked about what are the required competences when working in knowledge intensive business services, the interviewees all felt that the competence in the expertise area is crucially important and without that, it is not possible to work in KIBS projects. Another necessary expertise is communication. In more abstract projects, the requirements need to be discovered in the project execution phase, and that requires that the contractor can ask the right questions from the customer and get the information to figure out what are the important things in the project. In many cases, the required information needs to be interpreted from facial gestures or from between the lines, so good communication and social skills are important in those kinds of projects. Customers also speak their own industry jargon and generally do not understand the special jargon used in the service provider industry, so service providers need to either be able to communicate using “lingua franca”, i.e. language that everybody understands, or learn to speak with the terminology that the customer uses.

Communication is also important when presenting the work done to the customer and showing the value of what was produced. In business consulting projects, according to interviewee B, the projects commonly end with final presentations. In those presentations, in addition to the presentation skills, also information visualization is important.

Many other competences that are useful were mentioned in the interview. The contractor should have a good general knowledge and experience from several industries so that they will adopt to new industries and environments quickly and can utilize their previous experiences in new domains. They should also have good analytical skills to solve problems and combine general knowledge with customer specific details. In big projects, they should be able to divide the problem to smaller pieces.

From project management point of view, it was mentioned by interviewees C and L that KIBS professionals should have a positive attitude to always proactively offer help and improvement suggestions, even if the project has some temporary difficulties ongoing. They also need to be able to stand stressful environments and not give up if receiving negative feedback from the customer.

Teamwork and related social skills were highlighted by several interviewees. A KIBS professional needs to be able to work both alone and in a team. Preferably, they would also be able to lead small teams, so that they can delegate tasks to others and take care of project management duties.

Understanding business is also a valuable skill for a KIBS professional. In project work, they need to understand their customer's business so that the work that they are doing supports that and creates maximal value.

Project Sales

Some interviewees had experience in project sales, so they were asked to describe the most important aspects of it. Some common elements emerged from the interviews. The interviewees generally agreed that good reputation is very important in project sales. If the customer has already heard from a service provider company, and especially if they have heard good things about it, it has a large positive effect on the sales process. Similarly, as the local market is relatively small and compact, a service company cannot afford to lose their reputation or clients will hear about it soon.

Another common topic was references. For each sales case, the company should provide a list of relevant and positive references that the potential customer can check and verify. Interviewee F pointed out that it is important to understand the impact and what were the key aspects of making a successful project, not just presenting a case and telling that we did that. In the ideal situation, as described by interviewee A, old clients would voluntarily agree to present the reference case and provide positive feedback about the service provider company.

The third common topic was speaking to each decision maker with their own language. For example, there might be a top management member, an operational manager, and a sales manager involved in the buying process. In this case, the top management member should be presented the impact of the project, the operational manager how the proposed project helps operating the company and the sales manager about how it will affect the sales of the company.

Interviewee L told that it is important to be proactive in the offer, not just reacting to the request of the customer, but really trying to think what the customer needs and how that could be achieved. It might make sense to benchmark what the customer's competitors are doing and what are the common trends of the industry of the customer. And if some service provider's employees are familiar with the industry, they could bring extra knowledge to the offer. Especially if the service provider already has some people working for the same customer, who have insider knowledge about the company and its situation and needs.

Finally, interviewee A pointed out that knowledge intensive business services are still very much about the individual doing the service work, not so much about the company providing it. Therefore, it is important that the employee who is offered to the customer has relevant experience and is otherwise suitable for the project.

Interviewee J had long experience in selling management consulting projects. In those projects, the sales efforts are typically directed towards customer's top management, which means that the project benefits must be expressed in very high level, preferably as how the project will affect the customer's bottom line. Interviewee J told about some tools that can be used to direct conversation to be better suited for top management. Deloitte's Enterprise Value Map, which can be found on the Internet, is one way of mapping concrete improvement projects to the customer's revenue growth, operating margin, asset efficiency, or expectations.

Figure 1 provides an example of the Enterprise Value Map (adapted from Lukac & Frazier, 2012). The high-level objectives are at the top, and objectives become more concrete towards the bottom of the diagram. The concrete project ideas are listed at the bottom. The diagram can be used in two ways. It can either be used to get ideas about how to improve certain top-level objectives. It can also be used to present what impact does a project have on the company's strategic goals.

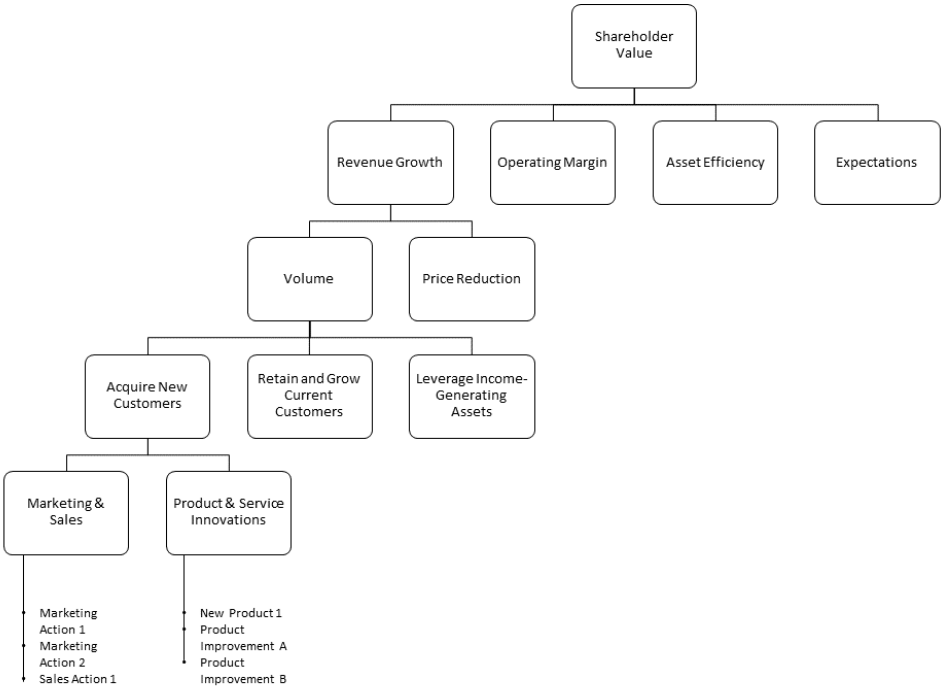

Figure 1: Enterprise Value Map (adapted from Lukac & Frazier, 2012)

Another conversation tool emphasized by Interviewee J is Deloitte's strategy tree. When combined with Enterprise Value Map, it is possible to link concrete projects to both value for the customer and alignment with the strategy of the customer. The same tool can also be used to link support functions to the value creation and strategy, so also improvement projects to supporting functions (such as HR or IT) can be visualized and linked with the tool.

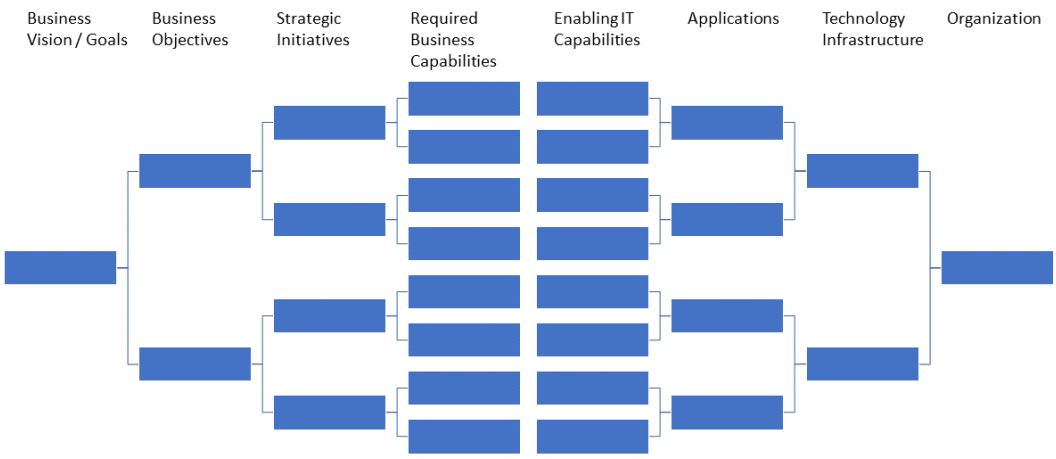

Figure 2: Linking organization capabilities to strategy (adapted from Lukac & Frazier, 2012)

Figure 2 provides an example of linking organization's capabilities with its strategic goals (adapted from Lukac & Frazier, 2012). This diagram can again be used in two ways. It can be used to see what organization capabilities are required to reach the goals of the organization. On the other hand, it also shows why the organization's tools and infrastructure are needed and what organizational goals they help to achieve.

Future Trends

Business consultants and designers brought up artificial intelligence as the strongest ongoing trend that will affect knowledge intensive business services in the near future. In business consulting, the interviewees felt that doing basic analyses will decrease in importance. What will become more important is building models that can perform the analysis again and again in different contexts. In other words, business consulting work will become more product driven and less about people.

Interviewee B envisioned a scenario, where at the end of a consulting project, instead of a PowerPoint deck and a final presentation, customers will be given a tool or a

product that has been tailored to their business and environment and which the customers can use to solve various problems. Competition between business consultants would become more about competition between the AI products that the companies are using instead of competencies of the individual consultants.

> *When consultants no longer need to spend so much time doing analyses, they will have time for creativity, execution or solving completely different kinds of problems. – Interviewee B*

Interviewee G, who is a designer, also thought that artificial intelligence will make basic design tasks redundant soon. There are already tools available that can do basic tasks, such as designing a landing page with specific requirements and insert stock images that are tagged with related keywords. If these tools continue improving and getting new features, they will be able to do most kinds of design tasks, especially with help from human designers.

Interviewee G felt that it is crucially important for designers to follow the progress of AI tools and utilize them as soon as possible to improve the efficiency of their work. The interviewee also thought that modern design companies should be involved in developing design tools that use artificial intelligence to automate tasks.

In software developer interviews, artificial intelligence was only mentioned once as a future trend, and in a context that developing the AI solutions will be one of the new skills that will be needed in the future.

Another future trend that was mentioned often was the “Uberization”, or platform business model, of the labor market. In other words, freelancing was seen as a rising force. If skilled freelancers can easily connect with employers, perhaps through a large common marketplace or social media service, it poses challenges for traditional knowledge intensive business service companies that have larger fixed costs than individual entrepreneurs. To solve this, traditional companies must really think what their method of creating value is and how to communicate it to customers.

The interviewed software developers in general predicted that the current trends will continue. So, there will be demand for higher level engineers who can link business objectives to technical design. But even though software development is commoditizing, there will be new areas where deep expertise will be needed, such as artificial intelligence, virtual reality, and other constrained domains.

Interviewee H brought up the possibility of increasing remote work. While that would allow more flexible geographical vendor selection and make working and communicating outside office hours easier, working without face-to-face contact with the customer can make creating trust and aligning values harder. So that needs to be balanced carefully in the future.

An environmental factor that interviewee F mentioned was labor laws. If they are changed to be less strict for the employer, i.e. that it is easier for companies to increase and decrease work force as needed, the market for external service providers might decrease, because one value creating aspect of professional services companies is to provide a buffer for fluctuating demand in these expertise areas.

Discussion

The interview results are well in line with existing theory that was summarized in the synthesis of the literature review, but two things stood out from the interviews: value alignment and close collaboration with the customer.

Value alignment means that during the project, it is crucial to identify what are the aspects of the project that the customer finds valuable and focus on those attributes. Usually the information is not readily available, but must be inferred from between the lines and weak signals. The desired value attributes are also unique to each customer and project, so different projects might require completely different kind of management to serve the unique requirements better.

Close collaboration with the customer yields a large number of benefits. It enables value alignment, because the real needs of the customer often are discovered in very informal communication. It creates trust, because the service provider is always available to the customer and the work performed is completely transparent and open. Communicating value is easy when it happens daily and not only at the end of the project in a final presentation. Problem solving and knowledge sharing also works best when it happens continuously and not in separate meetings.

Managerial Implications

This study provides knowledge intensive business service managers guidelines for project management, customer communication, employee competence development, and recruitment. Project management practices should be selected in a way that they support value alignment and close collaboration. Customer communication should also include more informal forms than official project progress reports and information requests.

In employee competence development and recruitment, consideration should be given also to communication skills and empathy, instead of focusing purely on the professional skills of the industry. Project management and customer business

understanding are two other competences that should be valued and taught to the employees so that they can better serve the customers.

Managers should also consider how project management and communication is handled in their knowledge intensive business service projects. If their company uses separate project managers in all projects, it should be considered whether some of the service providers would have the required abilities to manage their own projects on their own. And if communication with the customer flows through a central person, such as a project manager, they should consider if the service employees could be capable of direct communication with the customer to retrieve as much as possible information that is relevant to their work.

Implications for Theory and Further Research

As this research was highly explorative and identified only preliminary findings, pretty much all the findings should be validated with a larger and more focused study. The study still provides support for existing theories in knowledge intensive business service context and perhaps lays groundwork for new theories that combine service research with project management. Especially Van der Hoorn & Whitty's (2017) theory about the importance of the social skills of the project manager and Bosch-Sijtsema & Tjell's (2017) study about project spaces were validated strongly in the field of knowledge intensive business services.

The literature research showed that there exists still a considerable gap between project management research and service research, so also conceptual studies regarding knowledge intensive business services would be needed. Especially the relationship between project success and customer satisfaction is a subject that needs more research. Value creation in services is also an open research topic that requires both conceptual and empirical studies. The main findings of this study, value alignment and close collaboration need much deeper conceptual studying and later also operationalization and measurement of effect on project success and value creation.

For more empirical studies, more research is needed about the differences between different kinds of knowledge intensive business service industries and what are the implications of the differences to project management. Project management should study the project management techniques from a new angle, i.e. how they enable value alignment and close collaboration in practice. New research is needed also about the concept of project space. Projects that are done remotely need to be compared with projects that are done in client premises or otherwise in a same space with the client to measure the effect of the common working space.

As this study focused on researching the topic from service provider side, more research is needed to validate the findings from the customer's side. Similar study could be carried out that tries to find critical success factors from client side and what are the benefits and sacrifices for customers if using the project management model suggested in this study.

Reliability and Validity Analysis

The research topic has challenges considering both reliability and validity. The range of projects from start-ups to public sector is wide and most likely the same management principles are not valid in the ends of the spectrum. Companies have also difficult values and culture that affect people and how they evaluate things. In addition, currently popular management theories may skew people's opinion about them. Therefore the reliability of this study is questionable, as it is done in a one point of time, in one geographical area and does not cover all subindustries of knowledge intensive business services. However, the research is explorative, so the findings should not be taken as authoritative. Instead, this study is only one of the first steps in investigating the concept. To maximize the reliability of the study, interviewees were selected with as diverse background as possible and the number of interviews was kept as large as possible considering the available resources in the study.

The validity of the topic is dependent on the validity of the concept of "knowledge intensive business services" and of the synthesized project model. If the concept is

invalid or wrong theoretical frameworks are chosen to explain the phenomenon, the validity of the research is poor. As the concept is rather complex and the research is qualitative, unknown variables cannot be ruled out. There is also no way to verify or otherwise assess the quality of the opinions of the interviewees.

External validity is also a problem, because the pool of interviewees was a convenience sample, and there were limited possibilities of selecting interviewees at random. Random selection could have otherwise weakened the sample, so that was not considered further. The interviewees are very relevant to the subject, so the ecological validity should be good, but population validity is poor.

Altogether, the findings of this study should hold in an environment in which external subcontractors can give feedback to the customer company, so they will not hold in very authoritarian environment. It also requires industries where the client relationships can be long and where projects can be performed close to the customer.

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Appendix A: The Interview Schema

- What do you think are the important aspects of creating value for the customers?
- How do you define whether your projects have been successful or not?
- How would you describe a perfect consultant?
- How would you describe a perfect customer? What are the responsibilities of a customer to maximize the value that they are getting from the project?
- What are the ways of working or processes that the projects should be using?
- Who should be responsible for project management?
- How customer interaction and communication should be handled?
- What are the important aspects in project sales?
- What are the future trends of the industry in your opinion?